



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: STRAUVEN, Yvan  
GAY, Bruno

Serial No. 09/936,531

Group: 1746

Filed: September 11, 2001

Examiner: Crepeau, Jonathan

For Centrifugally atomized zinc alloy powder for alkaline batteries

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA. 22313-1450

DECLARATION UNDER 37 C.R. 1.132

I, Christophe Henninot, declare as follows.

1. I am a technical member of the scientific team that has developed the centrifugal atomization process for zinc powders within the company Umicore and has filed a demand for patent towards the US patent office.
2. A study was conducted under my direction and guidance to determine the 'aspect ratio' of two Zn alloy powders, which were made by centrifugal atomization in an oxygen controlled atmosphere. The oxygen content was 1% O<sub>2</sub> (powder referenced as BB484) and 3.25% (reference BB 406) resp.. Both powders had a mean particle size of +/- 200 micron.
3. From the observation of the shape of both powders, it can be deduced that they are far from spherical. This is illustrated by the pictures that are annexed, where this is shown in a very convincing manner. In a previous declaration by myself and submitted to the Examiner (dated Sept. 29, 2006), it was already demonstrated that Zn alloy powders made by centrifugal atomization in a protective atmosphere do not present a spherical shape or a shape close to that of a sphere when the oxygen content exceeds 0.2%. The present pictures corroborate this conclusion, and hence I conclude that throughout the range from 0.2% to 4% oxygen the Zn powders made by centrifugal atomization do not possess a spherical shape.
4. I further declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true, and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both,

under Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the above-referenced application and any patent issuing thereon.

Date: June 13, 2007

A handwritten signature in black ink, appearing to read 'Henninot', with a stylized flourish at the end.

Christophe Henninot

Annex: pictures from powders BB484 and BB406